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TIMBER MANAGEMENT PLAN

GENERAL TIMBER MANAGEMENT STATEMENT

GRAND MESA-UNCOMPAHGRE NATIONAL FOREST

COLORADO

Region 2

1960

REGION TWO

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GENERAL TIMBER MANAGEMENT STATEMENT

GRAND MESA-UNCOMPAHGRE NATIONAL FOREST

COLORADO

Region 2

1960

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PREFACE

THE PURPOSE OF THE GENERAL TIMBER MANAGEMENT STATEMENT IS TO GROUP AVAILABLE BACKGROUND DATA INTO WORKABLE, READILY AVAILABLE FORM. IT CONTAINS A GENERAL HISTORY OF TIMBER USE AND GIVES THE OBJECTIVES OF TIMBER MANAGEMENT IN RELATION TO OTHER USES.

DETAILED PROGRAMS FOR THE ACTUAL YEAR-TO-YEAR MANAGEMENT WILL BE COVERED BY A TIMBER MANAGEMENT PLAN FOR EACH WORKING CIRCLE. THE MANAGEMENT PLAN AND THE GENERAL STATEMENT WILL SUPPLEMENT EACH OTHER.

DUE TO THE GENERAL NATURE OF THE DATA ASSEMBLED IN THIS STATEMENT, FREQUENT REVISIONS WILL NOT BE NECESSARY.

TABLE I

AREA BY OWNERSHIP

GRAND MESA-UNCOMPAHGRE NATIONAL FOREST

	TOTAL AREA		AREA OF COMMERCIAL FOREST LAND			
UNIT	GROSS	NET	NATIONAL FOREST	STATE Co. & MUNIC.	PRIVATE	TOTAL
GRAND MESA WORKING CIRCLE	343,250	338,228	183,534	--	2,168	185,702
UNCOMPAHGRE WORKING CIRCLE	1,050,715	949,251	443,445	880	42,344	486,669
TOTAL	1,393,965	1,287,479	626,979	880	44,512	672,371

TABLE 1A

AREA BY TIMBER TYPE, STAND SIZE, AND STOCKING CLASS

Unreserved Commercial National Forest Land

Timber Type	Large Sawtimber				Small Sawtimber			
	Well	Medium	Poor	Total	Well	Medium	Poor	Total
Douglas-fir*		35	185	220		1,750	12,994	14,744
Ponderosa Pine		210	5,791	6,001		320	85,760	86,080
Spruce-Fir		20	30	50	110	65,794	117,791	183,695
Aspen								9,255
Total		265	6,006	6,271	110	67,864	216,545	293,774

Timber Type	Poletimber				Seedling-Sapling				Non-Stkd.	(Acres) Total
	Well	Medium	Poor	Total	Well	Medium	Poor	Total		
Douglas-fir*	1,364	1,648	864	3,876	70			70		18,910
Ponderosa Pine	20	1,540	4,219	5,779	64	20	270	354	1,880	100,094
Spruce-Fir	14,031	25,712	7,941	47,684	405	710	720	1,835	3,730	236,994
Aspen				229,636				32,050	40	270,981
Total	15,415	28,900	13,024	286,975	539	730	990	34,309	5,650	626,979

* Includes White Fir

Reserved Forest Land	10,278
Non-Commercial Forest Land	
Unreserved	358,635
Reserved	11,819
Non-Forest Land	
Unreserved	232,145
Reserved	47,623
Grand Total for Forest	1,287,479 Acres

CHAPTER I

GENERAL BACKGROUND

1. Location and Description:

The Grand Mesa-Uncompahgre National Forest, approximately 1.3 million acres in size, is located in Western Colorado between the Colorado River and the San Juan Mountains. It is composed of three distinct and separate geographical features; Grand Mesa, Uncompahgre Plateau, and the North Slope of the San Juan Mountains. It is in the drainage of the Gunnison, Uncompahgre, and San Miguel Rivers.

The forest contains two working circles; the Grand Mesa and the Uncompahgre.

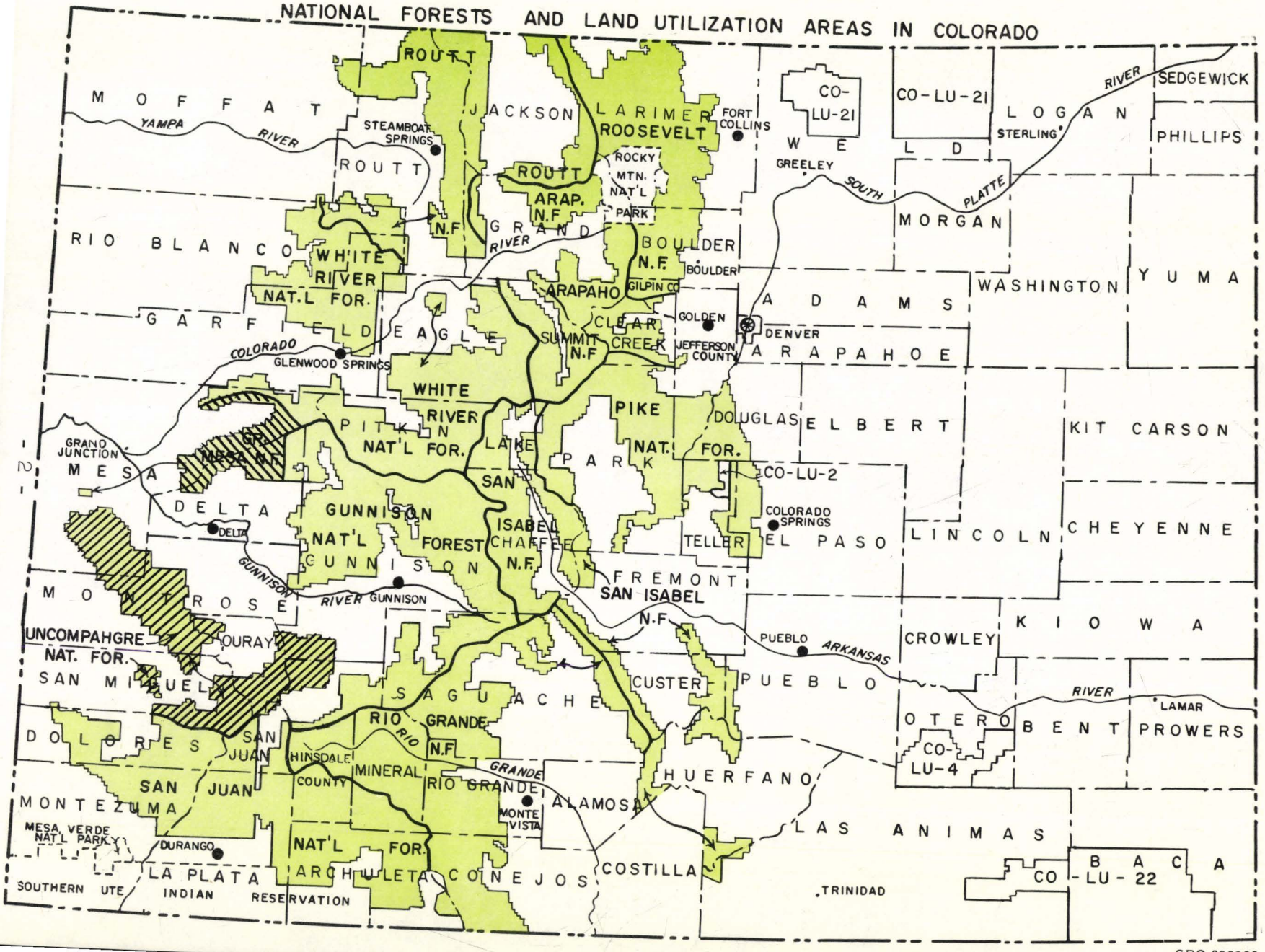
The Grand Mesa Working Circle is divided into three blocks which correspond to the ranger districts on the forest. Because of a lack of timber management activities, there is no subdivision into compartments. If the need develops, such subdivision will be provided at the time of revision of the working circle plan.

The Uncompahgre Working Circle is divided into 41 very large subunits which will be called compartments for the purpose of this plan. The wilderness areas are not contained in separate compartments as their boundaries will probably be changed within the next ten years. As timber management activities become more intensified, the present subdivisions will be broken down into smaller compartments and at that time the wilderness and any other reserved areas will be set up as separate compartments. Consideration of a more refined compartment breakdown will be given when the working circle plan is revised in 1970.

2. Geography, Soils, and Climate:

A. Geography

The Grand Mesa portion of the forest consists of two prominent topographical features; Grand and Battlement Mesas. The area is primarily sedimentary in origin but owes its existence to its 200 - 400-foot thick basalt cap. Plateau Creek has eroded this cap and the underlying shales, separating the two mesas. Battlement Mesa has eroded to the point where it resembles a rocky ridge rather than a mesa. The top of Grand Mesa, however, is roughly 28,000 acres in size and varies in elevation from 10,000 feet at Land's End to 10,954 feet at Leon Peak. The impervious nature of the basalt cap has caused the formation of numerous small lakes, 288 of which are named. The edge of the mesa drops off steeply, especially on the west, northwest, and southwest where the cliffs reach a height of 1,000 feet. In the eastern portion the change is less abrupt due to the erosive



WORKING CIRCLES of the *GRAND MESA-UNCOMPAHGRE* NATIONAL FOREST

GRAND MESA WORKING CIRCLE

UNCOMPAHGRE WORKING CIRCLE

Figure 1

ACTION OF NUMEROUS STREAMS. THE SLOPES BELOW THE CLIFFS ARE TYPIFIED BY TALUS AND BOULDER FIELDS. BELOW THESE ROCKY AREAS THE GRADIENT GRADUALLY DECREASES TO THE FOREST BOUNDARY WHICH LIES AT AN ELEVATION OF APPROXIMATELY 6,000 FEET.

THE UNCOMPAHGRE PLATEAU LIES BETWEEN THE SAN MIGUEL AND UNCOMPAHGRE RIVERS. IT IS ABOUT 120 MILES LONG AND VARIES IN WIDTH FROM 20 TO 50 MILES. THE PLATEAU IS COMPOSED OF NEAR HORIZONTAL SEDIMENTARY STRATA AND VARIES IN ELEVATION FROM 6,000 FEET AT THE FOREST BOUNDARY TO SLIGHTLY OVER 10,000 FEET NEAR COLUMBINE PASS. THE STREAMS DRAINING THE PLATEAU FORM DEEP, NARROW GORGES WITH RELATIVELY FLAT MESAS BETWEEN. THE NORTHEAST HALF OF THE PLATEAU IS DRAINED BY ROUBIDEAU, COTTONWOOD, DOMINGUEZ, AND ESCALANTE CREEKS. THESE STREAMS ARE TRIBUTARY TO THE UNCOMPAHGRE AND GUNNISON RIVERS. ON THE SOUTHWEST HALF, CLAY, TABEGUACHE, AND MESA CREEKS FLOW INTO THE SAN MIGUEL RIVER.

THE ALPINE-OURAY PORTION OF THE FOREST IS ESSENTIALLY A VOLCANIC PLATEAU UPON SUB-STRATA OF MULTI-COLORED CONGLOMERATES, SHALES, AND SANDSTONES. SEVERAL GLACIAL PERIODS HAVE PRODUCED CIRQUES, U-SHAPED, AND HANGING VALLEYS TYPICAL OF THAT FORM OF EROSION. SUBSEQUENT EROSION HAS PRODUCED REJUVENATED VALLEYS AND DEEP CANYONS. ALTITUDINAL VARIATION IS FROM 7,000 FEET NEAR THE LAKE FORK OF THE GUNNISON RIVER TO 14,306 FEET AT UNCOMPAHGRE PEAK. ROUGHLY ONE-THIRD OF THIS AREA IS ALPINE TUNDRA OR BARREN. IT IS DRAINED BY THE LAKE FORK OF THE GUNNISON RIVER, BLUE CREEK, AND THE CIMARRON, UNCOMPAHGRE, AND SAN MIGUEL RIVERS, ALL OF WHICH FLOW GENERALLY NORTH.

B. Soils

PARENT SOIL TYPES ON THE FOREST FALL INTO TWO GENERAL CLASSES; THOSE DERIVED FROM IGNEOUS ROCK, AND THOSE OF SEDIMENTARY ORIGIN.

IGNEOUS AND LAVA ROCKS FORM FERTILE SOIL AS A RULE, BUT DUE TO THE ELEVATION AT WHICH THEY APPEAR IN THE FOREST, THEY ARE GENERALLY SHALLOW AND CONTAIN A GOOD DEAL OF COARSE MATERIAL AND SURFACE BOULDERS. ROAD LOCATIONS IN THIS SOIL TYPE IS DIFFICULT AND CONSTRUCTION COSTS ARE HIGH. THE SURFACE BOULDERS AND SLIDE AREAS PRECLUDE TIMBER OPERATIONS IN MANY AREAS.

SOILS OF THIS NATURE ARE FOUND ON THE GRAND MESA AND AT THE HEADS OF BLUE CREEK AND THE SAN MIGUEL, UNCOMPAHGRE, AND CIMARRON RIVERS.

SOILS DERIVED FROM THE SEDIMENTARY FORMATIONS, INCLUDING LIMESTONES, SANDSTONES, AND SHALES ARE MOSTLY HEAVY CLAYS WITH VARYING AMOUNTS OF SAND. THE DAKOTA AND JURA-TRIASSIC SANDSTONES AND SHALES TYPICAL OF THE UNCOMPAHGRE PLATEAU YIELD SOILS THAT ARE SANDY IN PLACES BUT MOSTLY CLAY WITH CONSIDERABLE SURFACE ROCK. THESE SOILS ARE QUITE SHALLOW, WITH THE PARENT SEDIMENTS EXPOSED IN MANY PLACES. THIS IS ESPECIALLY TRUE ALONG DRAINAGES

WHERE IT APPEARS AS RIMROCK. THE MANCOS SHALE, FOUND ONLY AT THE LOWER ELEVATIONS IN THE FOREST, YIELDS A HEAVY CLAY THAT HAS LITTLE FERTILITY AND TENDS TO BE QUITE ALKALINE. THESE ARE THE GUMBO SOILS TYPICAL OF THE VALLEYS. WHEN DRY THEY ARE VERY HARD AND DUSTY. WHEN WET THEY BECOME VERY STICKY, MAKING EQUIPMENT OPERATION DIFFICULT AND SOMETIMES IMPOSSIBLE.

C. CLIMATE

THE CLIMATE OF THE FOREST IS TYPICAL OF THE SOUTHERN ROCKY MOUNTAINS. WINTERS ARE LONG AND COLD. THE FOREST IS SNOW-COVERED FROM FOUR TO SEVEN MONTHS OF THE YEAR, DEPENDING ON ELEVATION. DEPTH OF SNOWPACK VARIES FROM TWO TO SIX FEET AND TEMPERATURES MAY DROP TO -45 DEGREES FARENHEIT. SPRING BREAKUP OCCURS FROM MARCH THROUGH MAY AT THE LOWER ELEVATIONS AND APRIL THROUGH JUNE ABOVE 9,000 FEET. THE SUMMERS ARE WARM AND DRY. FROM JULY 15 THROUGH SEPTEMBER 15 AFTERNOON THUNDER-STORMS ARE COMMON. PRECIPITATION FROM THESE STORMS IS SPOTTY. ALTHOUGH TOTAL ANNUAL PRECIPITATION VARIES FROM 15 TO 22 INCHES, LESS THAN ONE-THIRD OF THIS AMOUNT FALLS DURING THE JUNE THROUGH SEPTEMBER GROWING SEASON.

SEVERE WINDSTORMS HAVE OCCURRED IN THE FOREST AT INFREQUENT INTER-VALS. ON JUNE 15, 1939 A STORM OF GALE PROPORTIONS DAMAGED 16,000 MBF OF SPRUCE ON THE GRAND MESA AND 6,000 MBF OF SPRUCE AND PINE ON THE UNCOMPAHGRE PLATEAU. A STORM OF LESSER PROPORTIONS WHICH STRUCK THE LONE CONE AREA IN 1950 ALSO CAUSED CONSIDERABLE DAMAGE.

3. GENERAL HISTORY:

PRIOR TO THE ARRIVAL OF WHITE MEN, THIS REGION WAS POPULATED BY THE UNCOMPAHGRE UTE INDIANS. THE DISCOVERY OF SILVER IN THE SAN JUAN MOUNTAINS IN 1874 CAUSED A GREAT INFLUX OF MINERS AND PROSPECTORS. FOLLOWING THE MEEKER MASSACRE, THE UTES WERE MOVED TO A RESERVATION IN UTAH AND THE UNCOMPAHGRE VALLEY WAS OPENED TO HOMESTEADERS IN 1881. WITHIN THREE YEARS, ALL OF THE DESIRABLE VALLEY LANDS WERE PATENTED AND NEW ARRIVALS TO THE TERRITORY HOMESTEADED ON LANDS NOW WITHIN THE FOREST.

4. FOREST HISTORY:

A. ESTABLISHMENT OF THE FOREST

THE GRAND MESA NATIONAL FOREST WAS ESTABLISHED BY PRESIDENT BEN-JAMIN HARRISON BY PROCLAMATION ON DECEMBER 24, 1892 UNDER THE NAME "BATTLEMENT MESA FOREST RESERVE." PRESIDENT CALVIN COOLIDGE GAVE THE FOREST ITS PRESENT NAME ON MARCH 11, 1924.

THE UNCOMPAHGRE NATIONAL FOREST WAS ESTABLISHED BY PRESIDENT THEODORE ROOSEVELT'S PROCLAMATION OF JUNE 14, 1905. THE NORWOOD

DISTRICT WAS ADDED TO THE FOREST IN 1947 WHEN THE MONTEZUMA NATIONAL FOREST WAS CONSOLIDATED WITH THE SAN JUAN NATIONAL FOREST.

SINCE MAY 1, 1954, THE GRAND MESA AND UNCOMPAHGRE NATIONAL FORESTS HAVE BEEN ADMINISTERED BY ONE SUPERVISOR ALTHOUGH THE FORESTS REMAIN SEPARATE ENTITIES. ON THE SAME DATE, THE MUDDY AND RIFLE DISTRICTS OF THE GRAND MESA NATIONAL FOREST WERE TRANSFERRED TO THE GUNNISON NATIONAL FOREST AND THE WHITE RIVER NATIONAL FOREST, RESPECTIVELY.

B. History of Timber Use

MINING ACTIVITY AND RAILROAD BUILDING REACHED ITS PEAK IN THE EARLY 1880'S AND REQUIRED LARGE AMOUNTS OF TIMBER PRODUCTS. THE MORE ACCESSIBLE STANDS OF DOUGLAS-FIR AND PONDEROSA PINE WERE EXTENSIVELY HIGH-GRADED FOR RAILROAD TIES AND MINE TIMBERS. IN 1908, THERE WERE 15 SMALL SAWMILLS IN THE AREA WITH A DAILY CAPACITY OF 209 MBF. ONE OF THESE MILLS WAS CUTTING 5.0 MBF OF ASPEN DAILY FOR FRUIT BOXES.

DEMONETIZATION OF SILVER IN 1893 CAUSED A CURTAILMENT OF MINING AND A DECREASED DEMAND FOR TIMBER. THE DEMAND FOR CORRAL POLES, HOUSE LOGS, AND LUMBER FOR LOCAL CONSUMPTION REMAINED FAIRLY UNIFORM UNTIL 1932. DURING THESE YEARS, THE COMBINED AVERAGE ANNUAL CUT ON BOTH FORESTS WAS 2.1 MMBF. SALVAGE CUTTING IN DEAD SPRUCE STANDS KILLED BY BARK BEETLES BEGAN IN 1955 WHEN 17 MMBF WERE CUT. SALVAGE CUTTING REACHED ITS PEAK IN 1957 WITH A CUT OF 47.5 MMBF.

C. Fire History

IN ORDER TO PROVIDE PASTURE FOR THEIR HORSES, THE INDIANS BURNED MANY AREAS ANNUALLY. THESE REPEATED BURNS HAVE ELIMINATED PONDEROSA PINE FROM SOME OF THE LOWER AREAS ON THE UNCOMPAHGRE PLATEAU. WHEN THIS BURNING WAS HALTED, OAK BRUSH SPROUTED DENSELY IN THE BURNED AREAS.

IN 1878 AND IN 1898, FIRES DENUDED LARGE AREAS OF BATTLEMENT AND GRAND MESA. A LIGHTNING STRIKE IN THE VICINITY OF TRICKLE PARK STARTED THE 1898 BURN WHICH BURNED OVER 100,000 ACRES BEFORE IT WAS PUT OUT BY A SNOWSTORM.

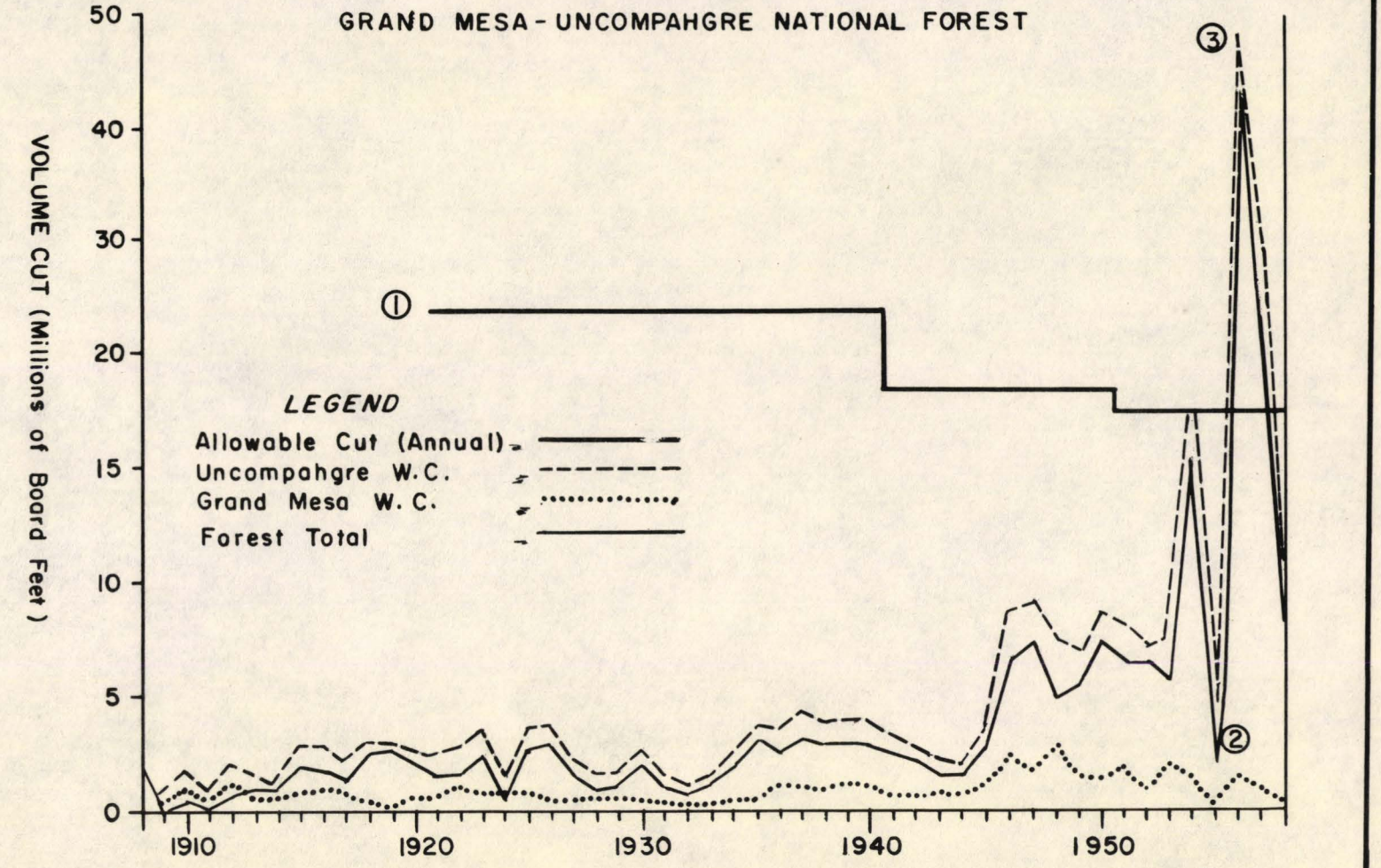
SINCE THE ADVENT OF FIRE PROTECTION ON THE FOREST, LARGE FIRES HAVE BEEN RARE. THE LARGEST ONES HAVE OCCURRED IN THE BRUSH AND PINYON-JUNIPER ZONES ON THE GRAND MESA. FROM 1949 THROUGH 1958, AN AVERAGE OF 20.5 FIRES BURNED 44.4 ACRES ANNUALLY.

TIMBER SALE SLASH DISPOSAL AND FIRE PLANS WILL PROVIDE MEASURES TO GIVE CUT-OVER AREAS THE SAME DEGREE OF PROTECTION AS WAS AVAILABLE PRIOR TO CUTTING. THESE MEASURES MAY INCLUDE SLASH DISPOSAL OR SUPPLEMENTAL PROTECTION, OR BOTH. PROMPT ACTION WILL BE TAKEN UNDER THESE PLANS TO AVOID ACCUMULATIVE SLASH BUILD-UP WHICH WOULD FORM CONTINUOUS AREAS OF HIGH OR EXTREME FIRE HAZARD.

Figure 2

VOLUME CUT

GRAND MESA - UNCOMPAHGRE NATIONAL FOREST



① – Complete data not available prior to 1921.

② – Records change from annual to fiscal year – figure represents first half C.Y. 1955.

③ – Salvage cuts – Insect killed spruce.

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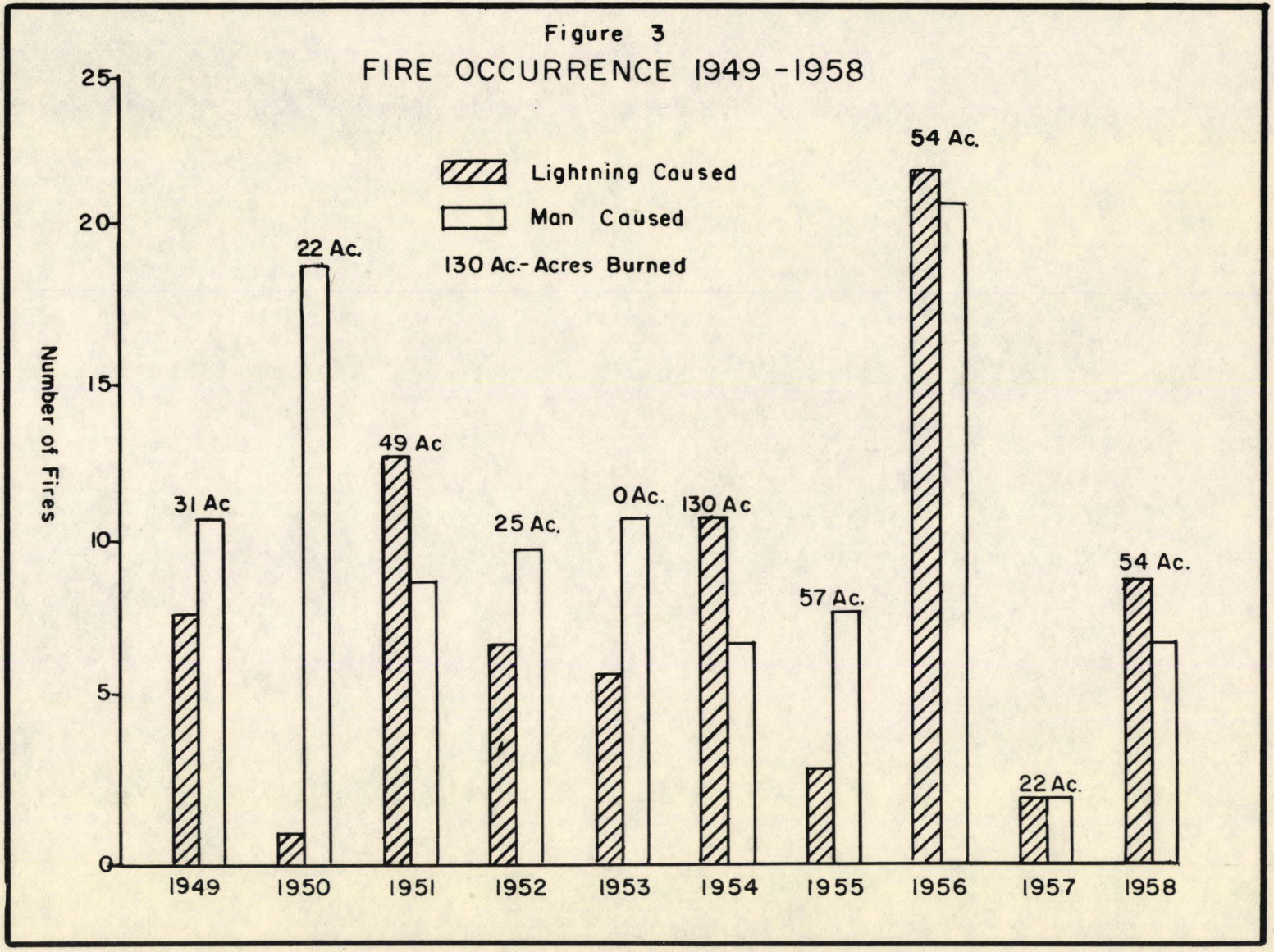
Figure 3

FIRE OCCURRENCE 1949 -1958



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D. Regeneration

(1) Natural

In virgin spruce-fir stands, natural reproduction is usually found where openings have been created by windthrow or other means. In stands that have been harvested, subalpine fir is prevalent. Spruce reproduction is good where the ground has been scarified by logging equipment or where slash piles have been burned.

Natural reproduction in ponderosa pine stands is poor.

(2) Artificial

In 1912 through 1915, 207 acres of ponderosa pine were planted near Roubideau Creek on an area that had been cut in the early 1890's. Of the total area planted, only the 1915 plantation of 75 acres failed. Fifty-one acres of this plantation were replanted in 1923 providing a net area of 183 acres of successful plantation.

Since 1949, 268 acres have been successfully planted in the forest, mostly to ponderosa pine. Where ponderosa pine has been planted in Dakota sandstone soils, survival is fair to excellent. Plantations in Mancos shale soils are generally failures.

Survival in spruce plantations has been generally fair to good. In 1958, 34 acres were seeded to spruce to determine if this is a more economical means of regenerating spruce stands. Results of this seeding were poor.

E. Insects

The combination of infrequent, severe windstorms and over-mature spruce stands in the forest produces ideal conditions for explosive growth in the endemic population of the spruce bark beetle. An insect epidemic of this nature in 1870-1875 is believed responsible for the scarcity of mature and over-mature spruce on the Grand Mesa. Bark beetles also killed between 5.0 and 10.0 MMBF of Engelmann spruce on the Grand Mesa in 1940-43 following the 1939 storm.

Trees damaged or windthrown by a windstorm in 1950 provided a breeding area on the Norwood District. Bark beetle population was epidemic in 1952, and by 1955, 70 MMBF of spruce had been killed. Lesser epidemics also occurred in 1913, 1949, and 1957.

PONDEROSA PINE ALSO HOSTS AN ENDEMIC BARK BEETLE POPULATION. EPIDEMICS IN 1908 AND 1913 WERE CONTROLLED BY CUTTING THE INFESTED TREES. SINCE 1950, 2,000 TREES ANNUALLY HAVE BEEN CUT OR CHEMICALLY TREATED TO PREVENT FURTHER OUTBREAKS.

F. DISEASE

SUBALPINE FIR ON THIS FOREST HAS A HISTORY OF HIGH DEFECT. THIRTY PERCENT CULL DUE TO ROT IS NORMAL AND 50 PERCENT IS NOT UNCOMMON. TWELVE PERCENT CULL DUE TO ROT CAN BE EXPECTED IN ENGELMANN SPRUCE IN OVERMATURE STANDS. THE AMOUNT OF ROT IN PONDEROSA PINE IS HIGHLY VARIABLE, DEPENDING PRIMARILY ON TREE VIGOR.

DWARFMISTLETOE IS A SERIOUS DISEASE IN PONDEROSA PINE SINCE IT IS PRESENT IN ALL STANDS. AN ESTIMATED 30 PERCENT OF THE TREES ARE INFECTED TO SOME DEGREE. CONTROL MEASURES HAVE CONSISTED OF SANITATION CUTTINGS AND THE USE OF K-V FUNDS TO REMOVE INFECTED SMALL TREES.

HIGH DEFECT IN ASPEN HAS BEEN THE CHIEF CAUSE FOR DISCONTINUING ITS USE IN FRUIT BOXES. TREES OVER 20" DBH ARE USUALLY INFECTED BY SHELF FUNGUS. CENANGIUM CANKER IS ALSO IN EVIDENCE IN MOST INJURED TREES.

5. SUMMARY OF RESULTS UNDER PREVIOUS MANAGEMENT PLANS:

THE OBJECTIVES IN PREVIOUS MANAGEMENT PLANS WERE, IN GENERAL, THE SAME AS IN THE PRESENT PLANS, NAMELY:

(A) HARVEST ALL OVERMATURE TIMBER BY 1984, (2000 IN PRESENT PLAN).

(B) SUPPLY LOCAL TIMBER NEEDS.

(C) PROTECT AND ENHANCE WATERSHEDS.

(D) ACQUIRE PRIVATELY OWNED TIMBERLANDS WITHIN THE FOREST.

PROGRESS TOWARD CONVERTING THE OVERMATURE TIMBER HAS NOT BEEN SATISFACTORY, SINCE THE ACTUAL CUT HAS BEEN FAR BELOW THE ALLOWABLE CUT. DURING 1940 TO 1958, FOR EXAMPLE, ONLY 20% OF THE ALLOWABLE CUT FOR THAT PERIOD WAS PRODUCED. THE PRINCIPAL REASONS FOR THE FAILURE EVEN TO APPROACH THIS PRIMARY OBJECTIVE ARE LACK OF AN ADEQUATE FOREST INDUSTRY AND OF ACCESS ROADS INTO TIMBERED AREAS.

FOR THE REMAINING OBJECTIVES, PROGRESS HAS BEEN REASONABLY SATISFACTORY.

TABLE 2

PREVIOUS MANAGEMENT PLANS

Working Circle	Plan Approved Original	Plan Approved Extension	Area of Comm. Forest Land (M Acres)	Total Volume (MMBF)	Annual Allowable Cut (MBF)
Alpine-Ouray	9/4/36	2/20/47	149	912	8,700
Grand Mesa	7/9/40	6/12/52	66	359	1,250
Miguel	2/2/33	4/7/42	63	152	2,100
Naturita	5/20/33	6/9/42	10	19	400
Uncompahgre Valley	9/4/36	6/17/47	195	168	2,000
			483*	1,610	14,450**

*Commercial forest-land area decreased to 336 M acres in 1957.
**Annual allowable cut increased to 17,500 MBF in 1957.

6. Silvicultural System

Prior to 1950, the marking policy statement emphasized application of the selection system to all types. Departure from this practice was, however, allowed where damage by weather, insects or disease was severe or where growth was stagnated beyond the point of recovery. The emphasis on selection cutting, however, resulted pretty generally in its application to all stands.

The timber-marking guides issued in 1950 for Engelmann spruce brought out the need for varying marking to fit stand conditions and provided for the use of single tree selection, group cutting, (selection or clear-cut) and clear-cutting in alternate strips. It also recognized and defined two forms of Engelmann spruce--the "mountain" and the "mesa" forms.

The current "Timber Management Guides" provide for sufficient flexibility to adapt the marking in all timber types to stand condition and to the needs of multiple-use management. Where stands are grown for the purpose of timber harvest, even-aged management is prescribed.

CHAPTER 2

THE PRESENT SITUATION

I. Cover Types:

A. Commercial Cover Types

(1) Spruce-Fir

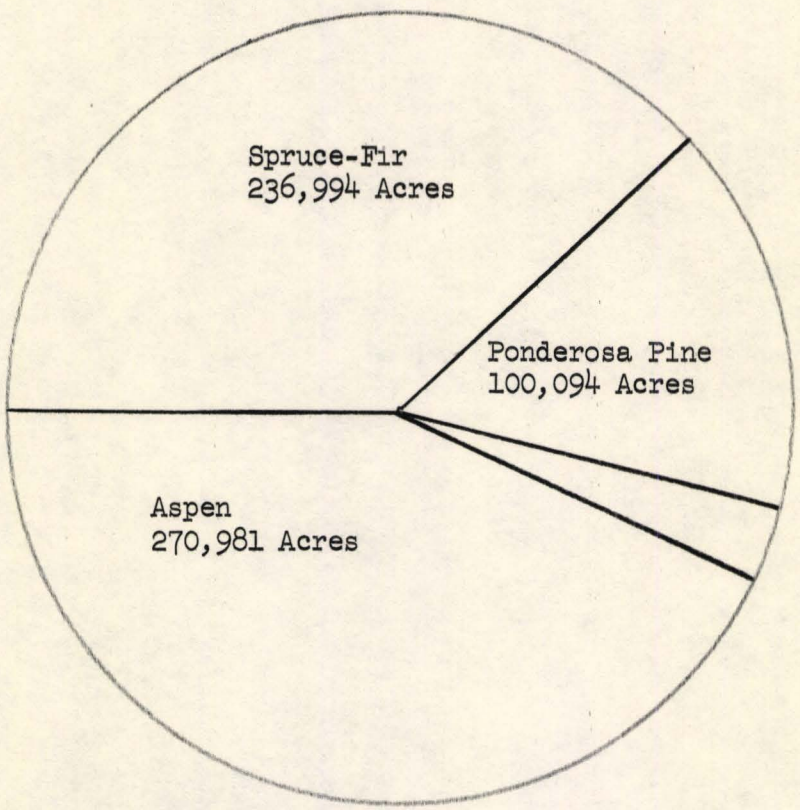
This type occupies 246,582 acres or 24% of the forest area, of which 236,994 acres are commercial. It consists of Engelmann spruce and subalpine fir in varying degrees of mixture, with subalpine fir generally making up 10% to 20% of the stand volume. Blue spruce, Douglas-fir and aspen are also found in this type.

The spruce-fir type occurs throughout the forest at elevations of 9,000 feet and above. All the forested lands on top of the Grand Mesa are in this type, but the stands seldom exceed 500 acres since they are interrupted by parks, lakes and rocky areas. On the Uncompahgre Plateau, the type occurs in narrow, irregularly shaped stands near the heads of streams. The largest portion of the type is in the Ouray area where, on the mesas between drainages, the stand is similar to that on the Grand Mesa. At the higher elevations of the Ouray area the stand occurs in narrow bands on steep slopes along the streams.

Almost half the spruce-fir type, or 135,000 acres, is overmature, while poles and reproduction cover 50,000 acres. Annual growth in type is estimated at 200 ft. b.m. per acre. In residual stands of 2 MBF per acre on the Uncompahgre Plateau, 38 ft. b.m. per acre per year is the expected growth rate under present conditions. The poor growth rate in this type is attributable to over-maturity and competition. Overmature stands containing 14 to 18 MBF per acre generally have a negative growth rate. Small sawtimber stands often contain as many as 180 sawlog trees to the acre and an understory of at least that number of below-sawlog-size trees. Competition is heavy in these stands and growth is virtually stagnated. On the other hand, stands on the best sites have shown excellent growth. Some early sales on the forest contained trees 24 inches in diameter that were less than 160 years old. An especially good example is that of a 27-inch spruce that was only 165 years old.

Figure 4

Area of Commercial Forest Land by Timber Types



Total Commercial Forest Land (NF) Area
626,979 Acres

(2) Ponderosa Pine

This type, which occupies 100,094 acres, or 10% of the forest area, is found almost entirely on the Uncompahgre Plateau at elevations between 7,000 and 8,800 feet. Small areas of ponderosa pine are found on Kannah Creek on the Grand Mesa Working Circle. Patches are also found near the Lake Fork of the Gunnison River in the Ouray area. The distribution of trees in the mature stands of this type is patchy, with small, irregular, sagebrush or oakbrush-covered openings common. The extensive high-grading of this species before the turn of the century has resulted in a patchy network of dense pole stands. These pole stands are generally in poor condition. With few exceptions, small reproduction is practically nonexistent.

In 1925, a study of residual stands averaging 6,200 ft. b.m. per acre showed a growth of 160 ft. b.m. per acre per year. A later study in residual stands of 1,050 ft. b.m. per acre showed a growth of only 25 ft. b.m. per acre per year. Mature stands, averaging 3,500 ft. b.m. per acre have an estimated annual increment of 80 ft. b.m.

(3) Aspen

The aspen type occupies a greater area on the forest than any other species. It covers 281,575 acres, or 28% of the forest area. A total of 270,981 acres support commercial aspen stands. This type occurs as a broad band between the ponderosa pine and spruce-fir types on the Uncompahgre Plateau and also invades denuded areas within the conifer zones. It likewise appears as an irregularly-shaped band between the oak brush and the spruce-fir types on the Grand Mesa and in the Ouray area. Only 9,255 acres in the forest presently contain sawlog aspen. The remaining commercial area, or 261,686 acres, contains poles and saplings.

In 80 years the best aspen sites produce 16-inch trees that average 80 feet in height. Growth is very slow between 80 and 120 years. Beyond the latter age, disease is prevalent in the stands and a negative growth rate results.

(4) Douglas-fir

Douglas-fir is found in commercial quantities only along the Lake Fork drainage where it occurs on steep north slopes and on ridges below an elevation of 9,500 feet. On the Uncompahgre Plateau it is principally found on rocky ridges, steep hillsides, or on canyon slopes. A few small, almost pure stands are found on north slopes of the Grand Mesa. This type occupies 18,960 acres or about 15% of the forest land.

B. Other Vegetative Types

(1) Blue Spruce

This species does not form a pure stand in the forest but mixes with spruce-fir, aspen, and ponderosa pine stands between 7,500 and 9,000 feet. It prefers a moist site and is most generally found along stream bottoms.

(2) White Fir

Abies concolor occurs in limited volumes on the Uncompahgre Working Circle. The only pure types have been found in the vicinity of Ouray.

(3) Pinyon-juniper

This type covers 87,072 acres, or 7% of the forest area. It consists of two junipers (J. scopulorum and J. utahensis) and pinyon pine. It is principally found on west and southwest slopes between 6,000 and 8,000 feet in elevation. The chief value of this type is for posts, fuel, and watershed protection.

(4) Oakbrush

This type invaded the ponderosa pine zone following repeated fires and now occupies 217,071 acres, or 16% of the forest area.

2. Reforestation

Salvage cutting following the spruce bark beetle epidemic of 1952-55 has affected approximately 3,700 acres. This area is mostly nonstocked or poorly stocked. In most cases, the sites have been exposed to the drying effects of the sun and wind. Natural regeneration has been poor and the entire area needs to be planted.

Each year, service organizations such as the Boy Scouts and 4-H Clubs plant small areas in the oakbrush type to ponderosa pine. Most of the plantations have met with fair success. Continuing, large-scale plantations are needed to revert the better sites to ponderosa pine.

3. Stand Improvement

Some of the best ponderosa pine sites were cut over prior to the establishment of the forest. Dwarfmistletoe in the residual stand has infected trees which have come into the sawtimber class

SINCE THE ORIGINAL CUTTING. IN ADDITION, REPRODUCTION HAS ALSO BECOME HEAVILY INFECTED. A SANITATION CUT IS NEEDED ON SUCH AREAS TOGETHER WITH THINNING AND CLEANING OF THE REPRODUCTION.

TREES PLANTED NEAR THE TRANSFER RANGER STATION IN 1912-1915 ARE BECOMING CROWDED AND ARE IN NEED OF THINNING. CROP TREES IN THIS PLANTATION SHOULD ALSO BE PRUNED.

THERE ARE 49,519 ACRES OF SPRUCE-FIR POLES AND REPRODUCTION. OF THIS AREA, 15,000 ACRES ARE IN NEED OF IMPROVEMENT CUTTING, WITH STAND SANITATION AND QUALITY IMPROVEMENT AS THE OBJECTIVE. IN SUCH CUTTING, SOUND ENGELMANN SPRUCE WILL BE FAVORED OVER SUBALPINE FIR.

4. FOREST PROTECTION

A. INSECTS

WITH THE EXCEPTION OF THE 1898 FIRE ON THE GRAND MESA, INSECTS HAVE DESTROYED OR DAMAGED MORE TIMBER ON THIS FOREST THAN ANY OTHER AGENT. IN THE CASE OF THE SPRUCE BARK BEETLE, STANDS DAMAGED BY WIND OR SNOWSLIDES ARE EXAMINED FOR BEETLE ACTIVITY, AND CHEMICAL TREATMENT IS INITIATED WHERE NECESSARY. IN AREAS OF EXTENSIVE DAMAGE OR WINDTHROW, REMOVAL OF THE DAMAGED MATERIAL IS EFFECTED THROUGH FREE USE PERMITS OR SALVAGE LOGGING.

BARK BEETLES IN PONDEROSA PINE ARE CONTROLLED PRIMARILY THROUGH HARVESTING. CHEMICAL TREATMENT IS APPLIED WHERE TREE REMOVAL IS NOT ECONOMICALLY FEASIBLE.

B. DISEASE

DISEASE CONTROL IN THE SPRUCE-FIR TYPE USUALLY WILL BE LIMITED TO THAT OBTAINED THROUGH HARVESTING OF MATURE STANDS.

IN THE PONDEROSA PINE TYPE, DWARFMISTLETOE-INFECTED SAWTIMBER STANDS WILL BE CLEAR CUT IN GROUPS, THE RESIDUAL STAND DESTROYED IF NOT MARKETABLE, AND THE CUTOVER AREA PLANTED. INFECTED POLETIMBER STANDS WILL BE CLEAR CUT, AND THE AREA RESTOCKED, TO THE EXTENT PRACTICABLE THROUGH COMMERCIAL PRODUCTS SALES.

TIMELY, PROPER HARVESTING IS THE BEST CONTROL THAT CAN BE APPLIED TO DISEASES OF ASPEN. CLEAR-CUTTING IN THIS SPECIES MINIMIZES MECHANICAL DAMAGE TO THE REMAINING STAND AND THEREBY REDUCES THE INCIDENCE OF CENANGIUM CANKER. HARVESTING OF ASPEN BEFORE IT BECOMES DECADENT ALSO REDUCES LOSS DUE TO HEART ROT.

C. Fire

With the present level of protection, the forest has sustained an average annual burn of 44.4 acres on national forest land for the past ten-year period (1949-1958), or .003% of the gross forest area. The long-term "burned area objective" applicable to commercial forest lands is 269 acres.

Timber sale slash disposal and fire plans will provide measures to give cutover areas the same degree of protection as was available prior to cutting. These measures may include slash disposal or supplemental protection, or both. Prompt action will be taken under these plans to avoid accumulative slash build-up which would form continuous areas of high or extreme fire hazard.

D. Animal

Porcupines and mice have caused considerable damage to young trees. Porcupine control by forest officers and cooperators will be continued. Plantations will be given priority in protection from porcupines and, where necessary, from mice and rodents.

The deer population is such that plantation locations will need to be selected to avoid concentration or other heavily used areas.

5. Community Forest Relationships

The principal sources of livelihood in the area adjacent to the forest are farming and stock raising. Farmers and ranchers depend on the forest for irrigation water, lumber, corral poles, fence posts, and range for their livestock.

All of the communities listed in Table 3 obtain domestic water from the forest. Only since World War II have local lumber products been able to compete with those imported from other regions for local building. Coal mines at Nucla, Cameo, Palisade, Cedaredge, Somerset, and Bowie, obtain prop material from the forest.

Approximately 400 men are directly employed by the local lumber industry. Sufficient labor is available to meet any expansion in timber operations.

TABLE 3

POPULATION OF INCORPORATED COMMUNITIES ADJACENT TO THE GRAND MESA-UNCOMPAHGRE NATIONAL FOREST 1/

CEDAREDGE	600	NATURITA	1,200
COLLBRAN	250	NORWOOD	300
DELTA	4,500	NUCLA	500
FRUITA	1,500	OLATHE	800
GRAND JUNCTION	20,700	OURAY	1,100
HOTCHKISS	750	PALISADE	1,000
LAKE CITY	150	PLACERVILLE	200
MONTROSE	6,000	RIDGWAY	350
		TELLURIDE	1,200

1/ COLORADO YEARBOOK, 1957 POPULATION ESTIMATES, ROUNDED OFF.

6. COORDINATION WITH OTHER USES

SERVICE-WIDE OBJECTIVES, POLICIES AND RESPONSIBILITIES FOR MULTIPLE-USE COORDINATION ARE SPECIFIED IN FSM 2100. IN ADDITION, THE NATIONAL FOREST MULTIPLE-USE LAND MANAGEMENT PLAN FOR THE WESTERN COLORADO SUBREGION GIVES THE OVERALL MANAGEMENT OBJECTIVES, DIRECTION, AND PRIORITIES FOR THE USE OF THE LANDS WITHIN THE FOREST.

ALL COMMERCIAL FOREST LANDS ON THE GRAND MESA-UNCOMPAHGRE LIE WITHIN THE INTERMEDIATE ZONE. MANAGEMENT PRIORITIES IN THIS ZONE ARE: PRIMARY, WATER AND TIMBER; SECONDARY, RANGE AND WILDLIFE. IN THE TRAVEL AND WATER INFLUENCE ZONES, LAND MANAGEMENT PRIORITIES ARE FOR OTHER THAN TIMBER. TIMBER CUTTING IN THESE ZONES WILL BE MODIFIED IN ACCORDANCE WITH DECISIONS IN THE WORKING CIRCLE PLAN AND THE BLOCK OR DISTRICT LAND MANAGEMENT PLAN.

A. WATER

WATER IS THE MOST IMPORTANT RESOURCE OF THE GRAND MESA-UNCOMPAHGRE FOREST. THE POPULATION OF THE COUNTIES OF DELTA, MESA, MONTROSE, OURAY, AND SAN MIGUEL, (92,600), DEPEND ON THE FOREST FOR IRRIGATION AND DOMESTIC WATER NEEDS. IN ADDITION, WATER FROM THE FOREST FLOWS INTO THE COLORADO RIVER AND HELPS TO MEET THE NEEDS OF DOWNSTREAM USERS. THERE ARE 288 RESERVOIRS ON THE FOREST COVERING 7,252 SURFACE ACRES, AND HAVING AN ESTIMATED CAPACITY OF 58,160 ACRE-FEET. THE ESTIMATED WATER PRODUCTION ON THE FOREST IS IN EXCESS OF 1,500,000 ACRE-FEET ANNUALLY.

LOGGING ROADS WILL BE LOCATED AWAY FROM STREAM BEDS TO PROTECT RIPARIAN VEGETATION. ROADS THAT WILL NOT BECOME A PART OF THE FOREST SYSTEM ARE WATER-BARRED TO PREVENT STREAM SILTING. BUFFER STRIPS, USUALLY A MINIMUM OF 100 FEET WIDE, ALONG STREAMS AND LAKES, ARE LEFT UNCUT OR ARE LIGHTLY CUT TO REMOVE HIGH RISK TREES.

B. Recreation

More than a million out-of-state tourists visited this area in 1958. In addition, there is heavy use of recreational facilities by the local population.

A number of factors are responsible for this use. Summers within the forest are dry and cool. Scenery in and near the forest is an important tourist attraction. State agencies stock many streams and lakes with legal-sized fish. Liberal bag limits and seasons attract many out-of-state big game hunters.

Forty sites have been developed for recreational use, and 55 additional sites are planned under the Operation Outdoors Program. The number of visits to the forest for the principal recreational pursuits during the past five years has been as shown in Table 4.

TABLE 4

Recreation Use - Grand Mesa-Uncompahgre National Forest

Type of Use	1954	1955	1956	1957	1958	Average Annual Increase
Camping	11,800	12,850	14,100	15,200	28,750	29%
Picnicking	31,800	32,400	34,000	33,000	26,300	-4%
Winter Sports	3,100	3,800	6,900	6,600	8,120	31%
Hunting	15,700	18,400	10,000	13,000	18,900	12%
Fishing	77,000	73,700	81,000	84,000	176,800	30%
General Sightseeing	17,500	22,900	23,700	29,100	33,250	18%

Policies for harvesting timber have been modified in roadside and waterfront zones. Very light cuts are made, taking only those trees which will become hazards, or whose removal will benefit the stand or improve its appearance. Slash disposal requirements are designed to meet the needs of the principal use, and for protection.

The forest includes the 52,326-acre Uncompahgre Wild Area and 17,394 acres of the Wilson Mountains Wild Area. A proposal to change the Uncompahgre Wild Area to a scenic area has been submitted to the Regional Office. Contained in the proposal is the following

TIMBER MANAGEMENT STATEMENT: "TIMBER CAN BE CUT FOR SANITATION, HAZARD CONTROL, AND SALVAGE OPERATIONS OR TO CONTROL INSECTS OR DISEASE, DETRIMENTAL FACTORS, EPIDEMIC OR OTHER." IN THE SALVAGE OPERATIONS FOLLOWING THE INSECT EPIDEMIC OF 1952-55, APPROXIMATELY 20,000 TREES WERE REMOVED FROM THE WILSON MOUNTAINS WILD AREA.

C. GRAZING:

THERE ARE 677,576 ACRES IN THE FOREST CLASSIFIED AS USEABLE RANGE. IN 1958, THE GRAZING LOAD IN THE FOREST WAS 123,536 COW MONTHS AND 102,636 SHEEP MONTHS. NO CONFLICTS EXIST BETWEEN TIMBER MANAGEMENT AND GRAZING USE.

LOGGING AND OTHER TIMBER USE ROADS WILL BE LOCATED SO AS TO AVOID NATURAL PARKS AND MEADOWS WHENEVER PRACTICABLE, AND LOGGING AND SAWMILL DEBRIS WILL BE KEPT OUT OF SUCH AREAS.

D. WILDLIFE:

GUIDELINES AS STATED IN THE "WILDLIFE COORDINATION PLAN" FOR THE FOREST WILL BE REFERRED TO WHEN PREPARING FOR SALES AND WHEN COORDINATING TIMBER MANAGEMENT OBJECTIVES WITH PROPER WILDLIFE MANAGEMENT PRACTICES.

ANY CLEAR CUTTING OF TIMBER WILL BE DONE IN PATCHES, STRIPS OR BLOCKS. THIS PATTERN WILL INCREASE FRINGE AREA AND HENCE WILL BE BENEFICIAL TO WILDLIFE. OPENINGS PROVIDED IN LARGE PLANTATIONS WILL ENHANCE SNOW STORAGE CAPACITY FOR WATERSHED PURPOSES AND WILL ALSO BENEFIT WILDLIFE.

WILDLIFE CONCENTRATION AREAS WILL BE AVOIDED IN SELECTING PLANTATION SITES IN THE "INTERMEDIATE ZONE" AND THE EFFECT OF PLANTATIONS ON WILDLIFE FOOD RESOURCES WILL BE CONSIDERED IN SELECTING SUCH SITES IN THE "LOW ZONE."

E. WATER INFLUENCE AND SPECIAL ZONES:

IN THESE HIGH PRIORITY OCCUPANCY AREAS TIMBER CUTTING WILL BE LIMITED TO THE REMOVAL OF INSECT-INFESTED, DISEASED, AND HAZARDOUS TREES. THE CUTTING, GENERALLY, WILL BE VERY LIGHT. LOGGING SLASH AND DEBRIS WILL BE KEPT OUT OF THE STREAMBED AND OFF THE BANKS

AND WILL BE COMPLETELY ABATED ON THE BALANCE OF THE AREA WITHIN THE ZONE. LOGGING ROADS WILL BE KEPT AS FAR AWAY FROM STREAMBANKS AS IS PRACTICABLE AND WILL BE PROPERLY DRAINED TO KEEP SILTING OF STREAMS TO A MINIMUM. ROAD CROSSINGS OF STREAMS WILL BE PROPERLY LAID OUT AND CAREFULLY CONSTRUCTED TO MINIMIZE SOIL AND STREAMBED DISTURBANCE.

LOGGING CAMPS, MILLS, AND LANDINGS WILL NOT BE ALLOWED WITHIN THESE ZONES. TIMBER SALE CONTRACTS WILL PROVIDE FOR ADEQUATE PREVENTION OF POLLUTION OR OF DAMAGE TO STREAMBANKS AND NATURAL CHANNELS OR TO LAKES OR RESERVOIRS.

F. TRAVEL INFLUENCE ZONE:

ON HIGHWAYS AND RECREATION ROADS, THE FOREST SUPERVISOR IS AUTHORIZED TO HARVEST TIMBER FOR SPECIAL DEMONSTRATION PURPOSES, FOR REMOVAL OF INSECT-INFESTED AND DISEASED TREES, FOR SAFETY HAZARD REDUCTION AND FOR ESSENTIAL CLEARING FOR APPROVED PURPOSES.

7. LAND PROBLEMS

THERE ARE 106,486 ACRES OF LAND IN PRIVATE OR STATE OWNERSHIP WITHIN THE NATIONAL FOREST. OF THIS AREA, 32,483 ACRES ARE PATENTED MINING CLAIMS, APPROXIMATELY ONE-THIRD OF WHICH PRODUCE COMMERCIAL TIMBER. THERE ARE ALSO A LARGE NUMBER OF UNPATENTED CLAIMS ON THE FOREST. SURFACE RIGHTS DETERMINATION WILL BE MADE ON THESE IN THE 1959 FIELD SEASON.

ALL LANDS WITHIN THE FOREST WHICH ARE SUITABLE FOR AGRICULTURE HAVE BEEN PATENTED UNDER THE VARIOUS HOMESTEAD ACTS. THE FOREST IS CURRENTLY PROCESSING 4 LAND EXCHANGES INVOLVING 870 ACRES IN ORDER TO CONSOLIDATE SCATTERED PARCELS OF LAND. LAND EXCHANGE ACTION IN THESE AND FUTURE CASES WILL BE IN ACCORDANCE WITH THE POLICIES EXPRESSED IN FSM 5430.3.

THERE ARE FOUR FUTURE TIMBER SALES ON THE FOREST FOR WHICH ROAD RIGHTS-OF-WAY ARE NEEDED OUTSIDE THE FOREST BOUNDARY. ACTION WILL BE INITIATED IN SUFFICIENT TIME SO THAT TIMBER SALES WILL NOT BE DELAYED. THE FOREST IS NEGOTIATING WITH ONE LAND OWNER TO OBTAIN RIGHT-OF-WAY INTO DALLAS CREEK. IN THE EVENT THIS FAILS, CONDEMNATION PROCEEDINGS WILL BE INITIATED.

THE OBJECTIVE WILL BE TO OBTAIN RIGHTS-OF-WAY IN AND FOR THE UNITED STATES FOR ALL ROADS NEEDED FOR USE AND DEVELOPMENT OF THE TIMBER RESOURCES OF THE NATIONAL FORESTS. RIGHTS-OF-WAY OBTAINED BY AND IN THE NAMES OF THE COUNTIES WILL BE OBTAINED ONLY WHERE THE ROADS ARE ASSURED OF PERMANENT CONTROL AND MAINTENANCE BY THE COUNTY INVOLVED.

BEFORE ACTION IS TAKEN TO OBTAIN RIGHTS-OF-WAY, REFERENCE WILL BE MADE TO FSM-FSH 5460 AND TO RELATED MANUAL AND HANDBOOK INSTRUCTIONS.

8. Transportation

The principal markets for forest products extends from the Rocky Mountains east throughout the Middle West. Railroad transportation to these markets is available via the Denver & Rio Grande Western Railroad. A spur line of the railroad extends south from Grand Junction to Ridgway. Another spur follows the North Fork of the Gunnison River from Delta to Somerset.

U. S. Highways 550 and 50 roughly parallel the eastern boundary of the Uncompahgre Plateau area about 12 miles distant. From Ridgway north to Montrose, U. S. 550 follows the Uncompahgre River. From Montrose north, U. S. 50 follows the Uncompahgre to Delta and the Gunnison from Delta to Grand Junction. The Uncompahgre Working Circle is also served by State Highways 149, 62, 145, 141 and 90 (See compartment map). The Uncompahgre Plateau area has a reasonably good network of roads for logging truck traffic. One additional road is, however, needed and State Highway 90 needs considerable improvement.

That portion of the Ouray area east of Highway U. S. 550 contains only 18 miles of road. One timber access road is under construction in Owl Creek and another is planned to follow the Little Cimarron River. West of U. S. 550, the Ouray area contains adequate main haul roads, except the Dallas Creek drainage.

In the Grand Mesa Working Circle, State Highway 65 crosses the Grand Mesa and is presently undergoing reconstruction by the Bureau of Public Roads. Other than State Highway 65, the Grand Mesa Working Circle at present contains less than 40 miles of truck roads. A road from Bonham Reservoir to the Cottonwood Lakes is under construction by the Bureau of Reclamation. The road system on the Grand Mesa is adequate for the volume of mature timber presently available.

TABLE 5

Summary of the Grand Mesa-Uncompahgre National Forest Development Transportation Plan as of June 30, 1958

Primary Forest Value	- Miles - Existing	Additional Needs	Total
Timber	500	1,740	2,240
Adm. and Fire	80	907	987
Other Resources	85	17	102
Total	665	2,664	3,329

THE CONSTRUCTION OF TIMBER ACCESS ROADS HAS BEEN ACCOMPLISHED BY BOTH PURCHASER CONSTRUCTION AND FOREST SERVICE CONSTRUCTION. SINCE APPROPRIATIONS HAVE NEVER BEEN SUFFICIENT TO ACCOMPLISH ALL THE NEEDS, PURCHASERS OF THE LARGE OFFERINGS WILL BE REQUIRED TO DO THEIR PART OF ROAD CONSTRUCTION WORK. FOREST SERVICE CONSTRUCTION WILL BE LIMITED TO AREAS WHERE THE ACCESS WILL BE USED BY MORE THAN ONE PURCHASER AND THE SALES ARE COMPARATIVELY SMALL. ALSO, THE MULTIPLE-USE ASPECT OF THE ROAD WILL HAVE AN INFLUENCE ON WHO IS TO CONSTRUCT THE ROAD.

TIMBER ACCESS ROADS GENERALLY WILL BE DESIGNED NOT ONLY TO REMOVE THE TIMBER BUT ALSO TO TAKE CARE OF RECREATION NEEDS. COSTS ABOVE THOSE REQUIRED TO REMOVE THE TIMBER WILL BE BORNE BY THE FOREST SERVICE RATHER THAN THE PURCHASER OF THE TIMBER.

THE WORKING CIRCLE PLAN WILL SCHEDULE THE ROADS NEEDED FOR THE REMOVAL OF THE TIMBER IN THE CUTTING BUDGET. ROAD PLANS SHOULD BE COMPLETED NOT LESS THAN ONE YEAR PRIOR TO THE TIMBER OFFERING.

9. FOREST INDUSTRIES

THERE ARE CURRENTLY 23 SAWMILLS IN THE VICINITY OF THE GRAND MESA-UNCOMPAHGRE NATIONAL FOREST WITH A COMBINED ANNUAL CAPACITY OF 59 MMBF. THREE OF THESE MILLS CAN CUT 10 MMBF OR MORE A YEAR. IN ADDITION, A NEWLY CONSTRUCTED VENEER MILL CAN ABSORB TWELVE MILLION FEET OF ASPEN ANNUALLY. THERE IS ALSO A DEMAND FOR HIGH QUALITY ASPEN BY THE MATCH-BLOCK MILL IN MANCOS, COLORADO, AND EXCELSIOR MILLS IN CALIFORNIA AND COLORADO.

PULPWOOD COULD BE HARVESTED FROM THE GRAND MESA IF A PULPMILL IS ESTABLISHED ON THE WESTERN SLOPE. UNDER PRESENT CONDITIONS, HOWEVER, SAWLOG PRODUCTION IS THE BASIC ECONOMY.

THE PRESENT ANNUAL ALLOWABLE CUT IS 17.5 MMBF, OF WHICH 1.5 MILLION FEET IS ASPEN.

CHAPTER 3

MANAGEMENT OBJECTIVES

1. MULTIPLE-USE:

THE WESTERN COLORADO SUBREGION LAND MANAGEMENT PLAN WILL BE CONSULTED FOR THE OVERALL OBJECTIVES OF MULTIPLE RESOURCE MANAGEMENT FOR PARTICULAR AREAS OR SEGMENTS OF THE WORKING CIRCLES INVOLVED.

2. TIMBER MANAGEMENT:

THE ATTAINMENT OF THE SUSTAINED YIELD CAPACITY FOR THE FOREST IS THE ULTIMATE TIMBER MANAGEMENT OBJECTIVE. UNDER GOOD SILVICULTURAL PRACTICES, THE GROWTH RATES AND YIELDS SHOWN BELOW BY TYPES COULD REASONABLY BE EXPECTED.

TYPE	AVERAGE ANNUAL GROWTH PER ACRE (EST.) (FT. B.M.)	COMMERCIAL FOREST AREA (ACRES)	SUSTAINED YIELD (MMBF)
SPRUCE FIR	200	236,994	47
PONDEROSA PINE	100	100,094	10
DOUGLAS-FIR	100	18,910	2
ASPEN	150	270,981	40
TOTAL		626,979	99

NOT INCLUDING ASPEN, THIS SUSTAINED YIELD FIGURE IS OVER THREE TIMES THE CURRENT ALLOWABLE CUT. TO ATTAIN THIS LONG-RANGE GROWTH OBJECTIVE, ALL OVERMATURE, DISEASED, AND UNDER OR OVERSTOCKED STANDS MUST BE PUT INTO GOOD GROWING CONDITION. AT THE PRESENT TIME, THERE IS UNSATISFACTORY GROWTH ON AN ESTIMATED THREE-FOURTHS OF THE FOREST'S COMMERCIAL FOREST AREA.

SHORT-TERM, (10-YEAR), PROGRAMS WILL BE INCLUDED IN THE WORKING CIRCLE PLAN. THESE PROGRAMS WILL BE DIRECTED SO THAT THE LONG-RANGE GROWTH OBJECTIVE MAY BE REACHED BY THE YEAR 2000. SUCH PROGRAMS SHOULD BE GUIDED BY THE FOLLOWING:

A. ALL OVERMATURED SAWTIMBER STANDS SHOULD BE HARVESTED WITHIN THE NEXT 40 YEARS. THE ALLOWABLE CUT WILL BE REVIEWED AND RECALCULATED AT LEAST EVERY 10 YEARS. AS BETTER INFORMATION IS OBTAINED IN REGARD TO VOLUME, LOSSES, ECONOMICS, ETC., IT MAY BE FOUND DESIRABLE TO ADJUST THE LENGTH OF THE CONVERSION PERIOD FOR THE OVER-AGED STANDS.

B. REDUCE THE INCIDENCE OF FOREST TREE DISEASES AND MAINTAIN AT THE LOWEST PRACTICAL LEVEL.

c. Develop, within the first two rotations, a desirable distribution of age classes for all species.

d. Initiate a reforestation program that will:

(1) Assure adequate stocking on cutover areas within five years after cutting. With 135,000 acres of overmatured spruce-fir type to be cut over within 40 years, the fill-in planting job is estimated to amount to 3,000 acres per year.

(2) Bring to adequate stocking the 3,700 acres of salvage-cut area in the 1952-1955 spruce bark beetle epidemic.

(3) Bring to adequate stocking, by fill-in planting 66,457 acres of poorly stocked ponderosa pine type.

(4) Reforest 217,071 acres of ponderosa pine site which has reverted to oakbrush cover through the effects of fire or insect attack.

e. Accomplish needed timber stand improvement, including improvement cutting on 15,000 acres of the spruce-fir type in poles and reproduction.

f. Prevent epidemic outbreaks of destructive forest insects. Keep especially in mind the explosive build-up characteristics of the Engelmann spruce bark beetle as past experience on the forest has demonstrated.

g. Keep fire damage within the long-term "burned area objective" for commercial forest land and within the annual PAR established for each working circle.

To attain the above objectives, it will be necessary to:

(1) Establish a local forest industry that will utilize the allowable cut of sawtimber from softwoods and aspen.

(2) Establish a forest industry to utilize small, round material from trees of less than 10.0 inches, d.b.h.

(3) Do a good timber management job. The increasingly heavy use of the forest provides an opportunity to familiarize visitors with the objectives and methods of timber management. Where practicable, examples of such activities as timber sale cutting, timber stand improvement work and reforestation efforts

SHOULD BE SIGNED OR OTHERWISE PUBLICIZED LOCALLY. THE QUALITY OF TIMBER MANAGEMENT WORK WILL BE THAT WHICH WILL RESULT IN A REACTION OF PUBLIC APPRECIATION FOR A CONSERVATION JOB WELL DONE.

(4) GIVE HIGH PRIORITY TO TRAINING ALL FOREST EMPLOYEES CONCERNED IN ACCOMPLISHING THE OVER-ALL MANAGEMENT OBJECTIVES SET FORTH IN THIS GENERAL STATEMENT.

SUPPORTING DATA

TABLE 6 PRECIPITATION RECORD, UNCOMPAHGRE W. C.

TABLE 7 SNOW COURSE RECORD, GRAND MESA W. C.

TABLE 8 REPORT OF TIMBER CUT AND SOLD SINCE 1915

FIGURE 5 PARENT SOIL TYPES, GRAND MESA W. C.

FIGURE 6 PARENT SOIL TYPES, UNCOMPAHGRE W. C. (PLATEAU BLOCK)

FIGURE 7 PARENT SOIL TYPES, UNCOMPAHGRE W. C. (OURAY BLOCK)

TABLE 6

PRECIPITATION TABLE

THE FOLLOWING TABLE IS A RECORD OF THE PRECIPITATION ON THE UNCOMPAHGRE PLATEAU AT AN ELEVATION OF APPROXIMATELY 7,800 FEET. THE STATION IS LOCATED IN A LARGE PARK WHICH IS SURROUNDED BY PURE PONDEROSA PINE TYPE.

	Amount in Inches									
Month	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
January	2.17	1.03	.81	2.09	.79	.50	1.02	2.73	2.71	1.42
February	.55	1.53	.50	1.13	.89	.17	2.02	.53	1.20	1.58
March	.76	.87	.48	1.53	1.11	1.11	.49	.64	1.27	1.17
April	.97	.51	1.15	1.95	1.92	.97	1.46	1.54	2.63	.62
May	1.30	.32	.71	.93	.99	1.21	1.14	.30	3.87	.33
June	2.60	.31	.10	.14	.57	.26	.41	.35	1.13	.63
July	3.53	1.70	1.04	3.05	4.01	1.19	1.44	.88	2.95	.61
August	1.02	.48	2.72	2.83	1.55	1.01	1.41	.94	3.73	3.25
September	.73	1.51	.35	2.11	.02	4.18	.30	.37	.01	2.03
October	1.25	0.00	1.34	0.00	2.27	1.29	.16	1.03	4.41	1.33
November	.27	.30	1.06	.98	1.60	1.36	1.48	.96	1.77	1.29
December	.59	.77	1.91	.91	.58	.46	.92	1.15	1.01	.56
Season Total	15.74	9.33	12.17	17.65	16.30	13.71	12.25	11.42	26.69	14.82

TABLE 7

MESA LAKES SNOW COURSE

THE FOLLOWING IS A RECORD OF SNOW MEASUREMENTS ON THE GRAND MESA AT AN ELEVATION OF 9,900 FEET. THE COURSE IS LOCATED IN A SMALL PARK WHICH IS SURROUNDED BY SPRUCE-FIR TYPE.

(ALL MEASUREMENTS IN INCHES)

	JANUARY 31		FEBRUARY 28		MARCH 31		APRIL 30	
YEAR	SNOW	WATER	SNOW	WATER	SNOW	WATER	SNOW	WATER
1939	48.2	9.8	54.8	14.9	46.4	14.8	18.8	7.7
1940	27.4	7.7	49.4	14.2	57.1	18.1	42.8	16.4
1941	53.7	13.3	62.4	18.2	67.4	23.4	71.6	27.5
1942	45.2	11.0	56.4	16.4	79.6	23.5	76.8	26.5
1943	27.8	5.8	34.7	8.6	41.0	12.8	4.2	1.1
1944	45.3	9.7	46.2	12.0	61.6	18.0	73.3	23.0
1945	36.8	8.6	48.4	14.1	61.5	20.7	60.1	23.0
1946	29.5	5.7	28.4	6.7	42.5	11.9	12.9	4.5
1947	37.6	10.0	46.1	13.5	54.8	17.2	47.0	18.5
1948	37.6	10.0	60.2	15.7	62.5	21.1	47.2	18.4
1949	45.1	12.9	44.2	14.6	63.1	18.5	32.6	12.9
1950	33.8	9.7	44.0	12.2	51.8	15.4	28.3	10.7
1951	27.9	6.2	44.4	10.4	38.4	11.0	39.0	10.6
1952	58.0	17.4	63.5	20.8	79.4	27.6	52.7	23.5
1953	34.1	9.8	37.5	11.1	47.3	15.0	46.8	14.2
1954	33.9	10.0	40.7	11.7	55.4	16.7	24.7	5.7
1955	34.9	10.2	46.0	14.1	47.4	17.6	34.8	11.4
1956	43.6	12.2	49.4	15.2	43.4	14.9	22.0	10.7
1957	59.0	14.7	63.7	17.2	68.6	22.3	67.8	27.4
1958	54.6	16.0	71.5	22.1	81.0	27.7	66.7	27.1
20-YR. AVERAGE	40.7	10.5	49.6	14.2	57.5	18.4	43.5	16.0

PARENT SOIL TYPES
GRAND MESA WORKING CIRCLE
GRAND MESA NATIONAL FOREST

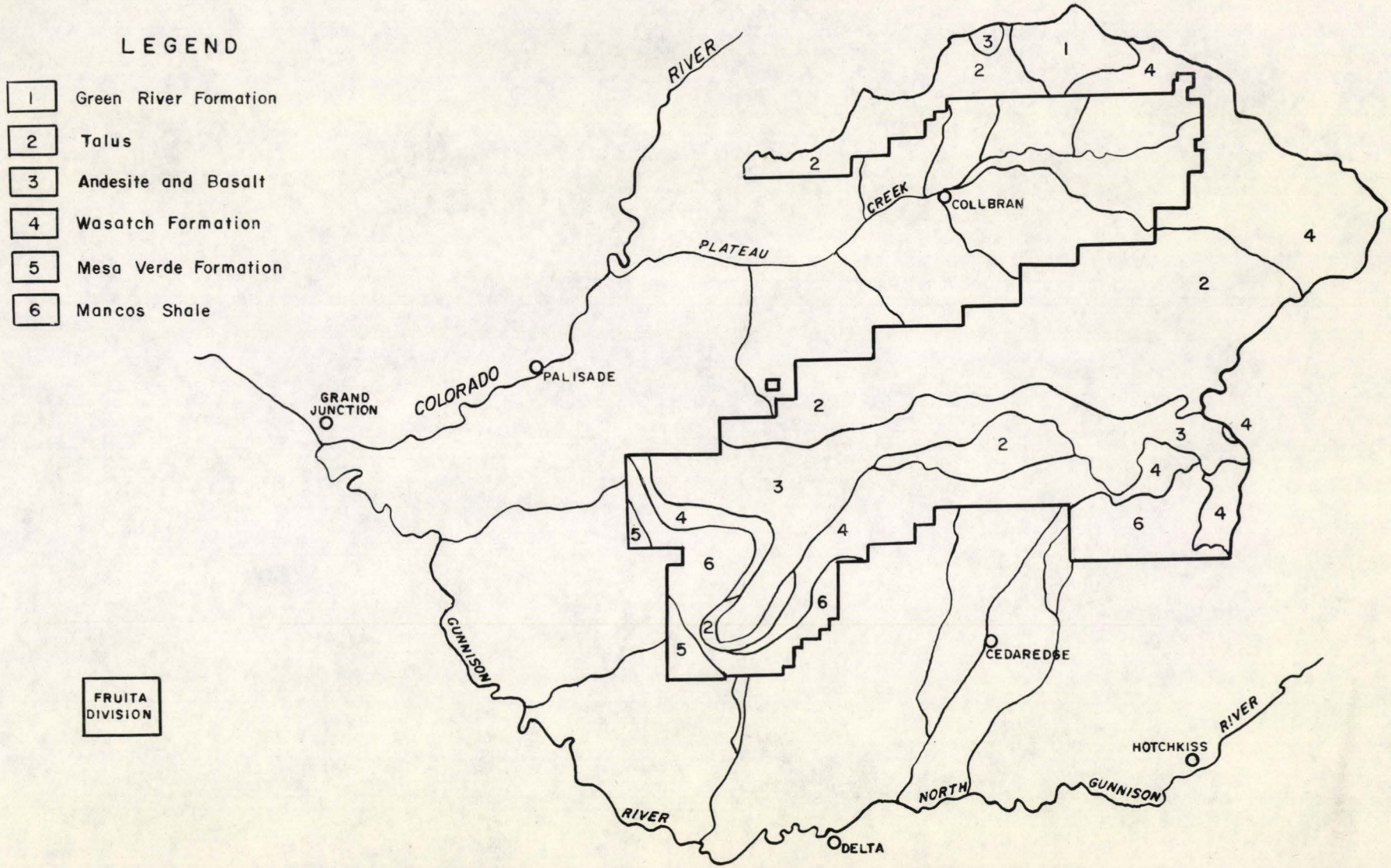


FIGURE 5

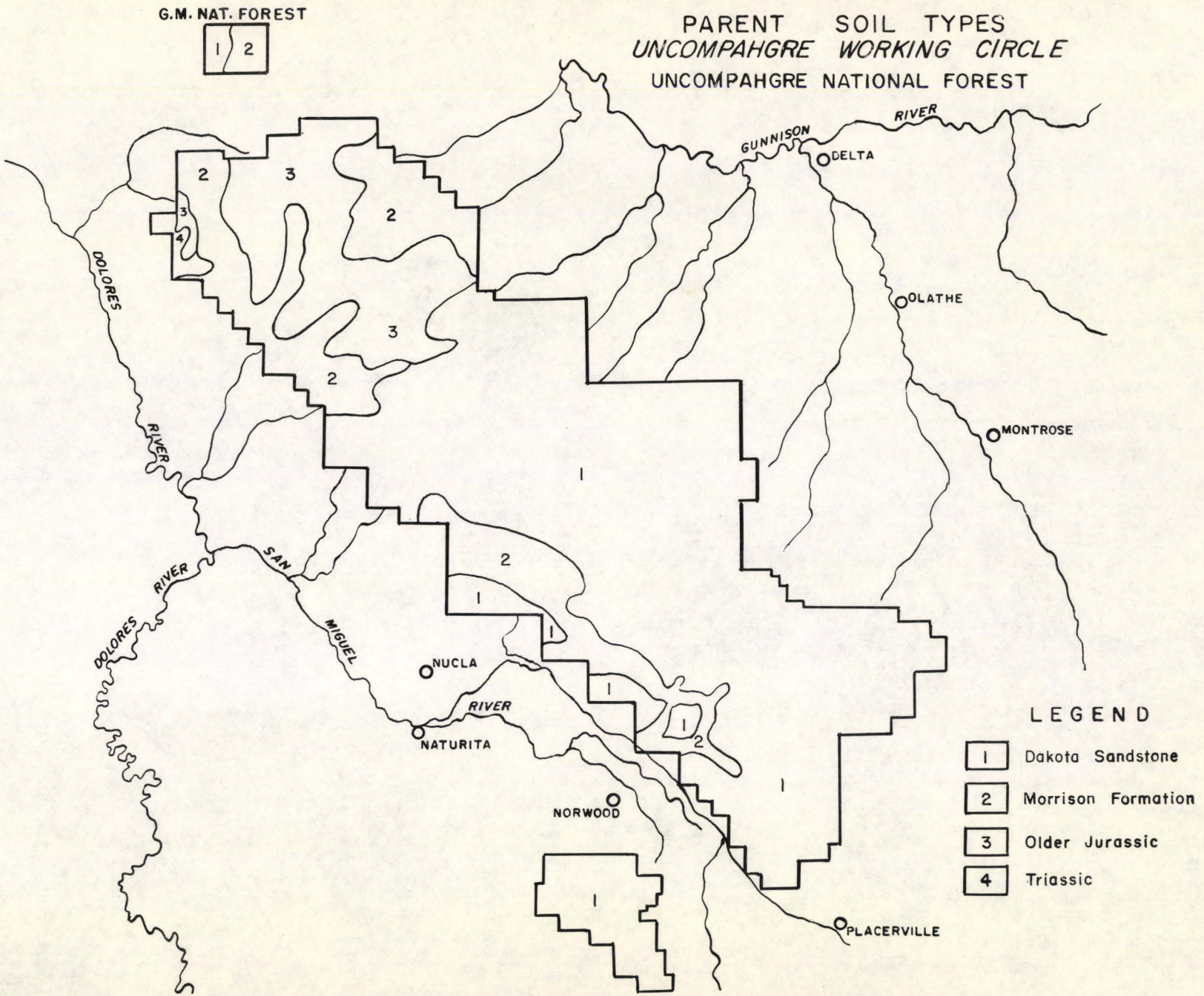

G.M. NAT. FOREST
1 2
PARENT SOIL TYPES
UNCOMPAHGRE WORKING CIRCLE
UNCOMPAHGRE NATIONAL FOREST
GUNNISON RIVER
DELTA
OLATHE
MONTROSE
DOLORES RIVER
SAN MIGUEL RIVER
DOLORES RIVER
NUCLA
NATURITA
NORWOOD
PLACERVILLE
LEGEND
1 Dakota Sandstone
2 Morrison Formation
3 Older Jurassic
4 Triassic

FIGURE 6

PARENT SOIL TYPES
UNCOMPAHGRE WORKING CIRCLE
UNCOMPAHGRE NATIONAL FOREST

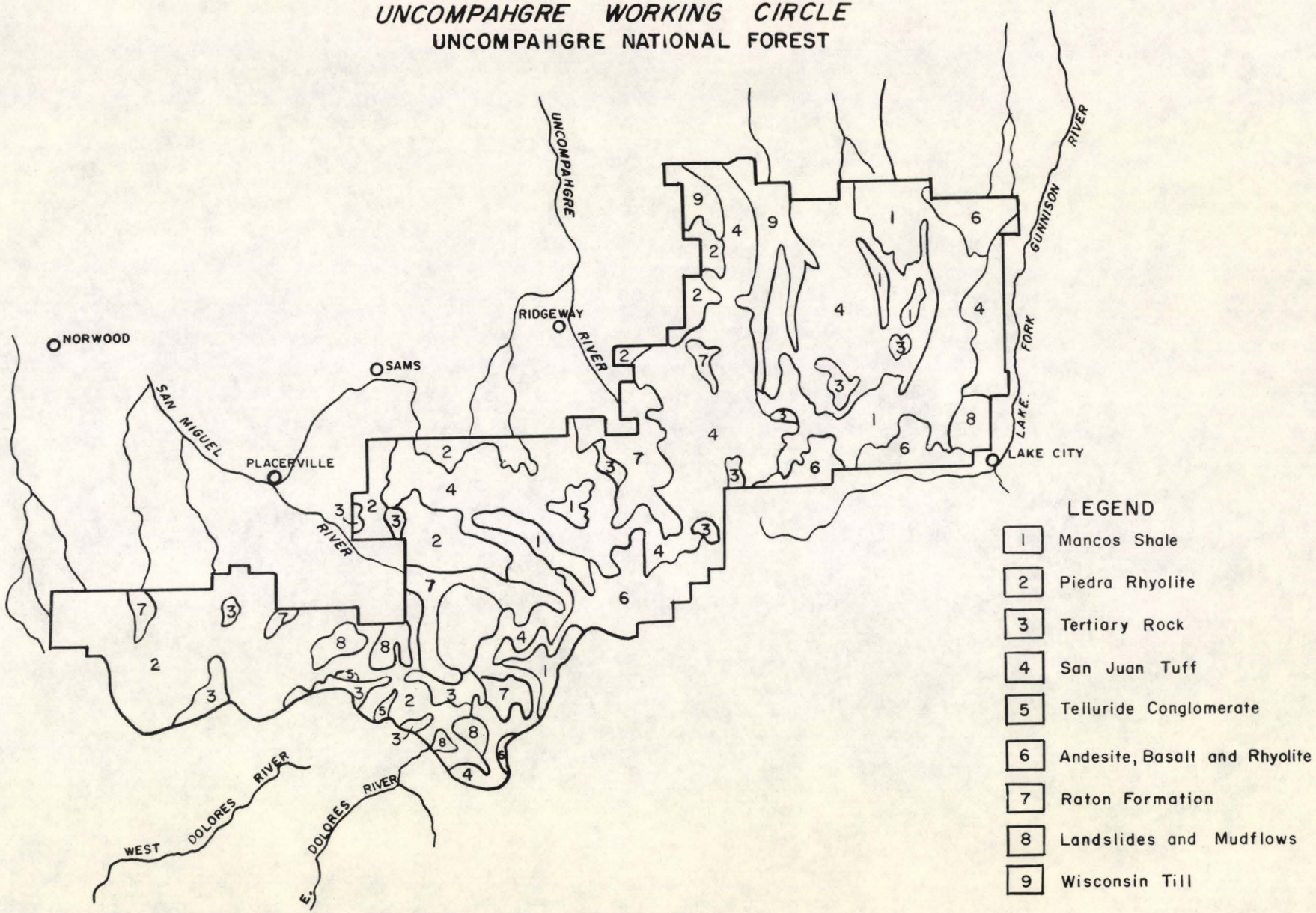


FIGURE 7

GPO 842951

TABLE 8

REPORT OF TIMBER CUT AND SOLD SINCE 1915
GRAND MESA-UNCOMPAHGRE NATIONAL FOREST

	No. Sales	Timber Sold: MBF	Value	Average Selling Price	Timber Cut: MBF	Value	Average Selling Price
1915 FY	107	5,726	12,103	2.11	1,905	3,894	2.04
1916 "	37	287	786	2.74	709	1,353	1.90
1917 "	34	1,300	2,396	1.84	1,536	2,854	1.86
1918 "	39	282	270	0.78	2,696	5,045	1.87
1919 "	62	2,832	4,459	1.57	2,132	3,952	1.85
1920 "	51	2,031	4,779	2.35	1,963	3,417	1.74
1921 "	45	656	1,651	2.52	2,223	5,622	2.53
1922 CY	144	1,264	2,897	2.29	2,457	5,179	2.11
1923 "	90	670	1,532	2.29	3,325	8,063	2.42
1924 "	77	1,546	4,028	2.60	2,899	8,302	2.86
1925 "	74	981	2,089	2.13	2,355	5,962	2.53
1926 "	77	5,992	17,592	2.94	2,648	5,999	2.26
1927 "	41	908	2,284	2.52	1,285	3,045	2.37
1928 "	63	427	926	2.17	1,449	3,591	2.48
1929 "	55	432	983	2.28	1,627	4,284	2.63
1930 "	79	5,074	16,572	3.27	2,377	6,985	2.94
1931 "	92	598	1,274	2.13	1,283	3,325	2.59
1932 "	110	605	1,291	2.13	968	2,373	2.45
1933 FY	97	614	1,350	2.20	936	2,286	2.44
1934 "	93	1,013	2,395	2.36	1,105	2,959	2.68
1935 "	78	821	1,957	2.38	1,054	2,540	2.41
1936 "	114	4,413	11,882	2.69	2,173	5,480	2.52
1937 "	99	4,179	11,404	2.73	2,911	8,215	2.82
1938 "	72	5,182	18,115	3.50	3,066	8,679	2.83
1939 "	71	2,208	5,107	2.31	3,203	9,306	2.90
1940 "	43	4,461	11,578	2.60	3,062	6,898	2.25
1941 "	28	1,196	2,598	2.17	2,545	6,589	2.59
1942 "	35	1,541	3,129	2.03	2,411	7.224	3.00
1943 "	44	894	1,969	2.20	2,219	6,383	2.88
1944 "	37	8,061	21,581	2.68	1,082	2,817	2.60
1945 "	66	3,120	4,930	1.58	1,785	4,570	2.56
1946 "	96	12,252	21,242	1.73	2,807	6,234	2.22
1947 "	88	8,284	22,917	2.77	9,093	21,913	2.41
1948 "	60	11,606	31,842	2.74	8,248	21,735	2.64
1949 "	60	4,380	10,499	2.40	6,956	13,256	1.90
1950 "	81	4,945	18,592	3.76	6,485	17,428	2.69
1951 "	89	13,207	81,257	6.15	9,186	29,160	3.17
1952 "	82	5,953	21,975	3.69	6,877	40,158	5.84
1953 "	52	5,215	47,443	9.10	7,177	46,480	6.48
1954 "	51	8,469	19,808	2.34	8,218	48,993	5.96
1955 "	63	59,172	143,888	2.43	16,695	53,134	3.18
1956 "		35,997	130,764	3.63	47,107	90,665	1.92
1957 "	48	9,222	65,910	7.15	28,079	61,061	2.17
1958 "	45	2,563	17,430	6.80	8,791	79,778	9.07

COMPARTMENT MAP

UNCOMPAHGE WORKING CIRCLE – 2

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
LYLE F WATTS, CHIEF
ANTHONY P. DEAN, CHIEF, DIVISION OF ENGINEERING

UNCOMPAHGRE NATIONAL FOREST COLORADO

NEW MEXICO PRINCIPAL AND SIXTH PRINCIPAL MERIDIANS

1951

Scale 1 ½ 0 1 2 3 4 5 Miles

Revised 3/60
File No. 2400

LEGEND

- National Forest Boundary
- Adjacent National Forest Boundary
- Good motor road
- Poor motor road
- Trail
- Railroad
- Telephone line
- Supervisor's headquarters
- District ranger station. } Report fires here
- Guard or ranger station (not permanently occupied)
- House, cabin or other building
- Schoolhouse
- Triangulation station
- Improved recreation area
- Improved picnic ground
- Wilderness area (100,000 acres or more)
- Wild area (less than 100,000 acres)

FOREST SERVICE MAP CLASSIFICATION AREAS

Compiled and drawn at Regional Office, Denver, June 1951
from Forest Service, U.S.G.S. and S.C.S. Aerial Surveys,
B.L.M. and other surveys, by V.W. West and R.F. Burrus.

Longitude west from Greenwich

Polyconic projection
North American datum

BLOCK MAP

GRAND MESA WORKING CIRCLE

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
RICHARD E. McARDLE, CHIEF

GRAND MESA NATIONAL FOREST

COLORADO
SIXTH AND UTE PRINCIPAL MERIDIANS
1959

Scale
1 ¼ 0 1 2 3 4 5 Miles

LEGEND

- National Forest boundary
- Adjacent National Forest boundary
- Highway, hard surface
- Good motor road, graded gravel
- Motorway, improved dirt
- Poor motorway, unimproved dirt
- Trail
- Railroad
- Power line
- Telephone line
- Municipal and other airports
- U. S. Highway route
- State highway route
- County route
- Forest route
- Supervisor's Headquarters
- District Ranger Station
- Guard or Ranger Station (Not permanently occupied)
- Fire tool cache
- Permanent lookout station
- Improved forest campground C.G. or picnic ground P.G.
- House, cabin or other building
- Triangulation station
- Schoolhouse
- Airway beacon
- Corral
- Mine
- Sawmill
- Cave
- National Forest land

Report Fires here

Revised 3/60

COLBRAN 001

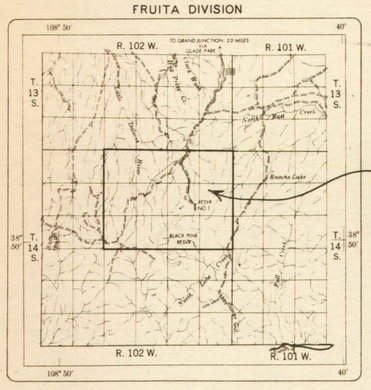
MESA 003

LAKES 002

COLBRAN 001

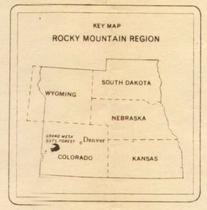
GUNNISON NATIONAL FOREST

FRUITA DIVISION



Fruita Division is included in the UNCOMPAHGRE WORKING CIRCLE

KEY MAP
ROCKY MOUNTAIN REGION



FOREST SERVICE MAP—CLASS "A"

Compiled and drawn at Regional Office, Denver, Colo.—1959 from Forest Service and U.S.C.S. planimetric maps and U.S.G.S. topographic maps constructed by photogrammetric methods from aerial photographs.
Control by U. S. Coast and Geodetic; U. S. Geological Survey and Forest Service Surveys.

Longitude west from Greenwich

Polyconic projection
North American datum.